

UNITED STATES PATENT AND TRADEMARK OFFICE
DOCUMENT CLASSIFICATION BARCODE SHEET



Claims

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Patent Classification Barcode

What is claimed is:

- 562
1. A link writing method for a recordable compact disk (CD-R) comprising the steps of:
- 5 recording a interrupted position by storing values of an interrupted sector, an interrupted data frame, and an interrupted bit count when data under-run or other causes occur in the driver ; and
- enabling a succeeding writing process when the causes causing the writing interruption is eliminated, the succeeding writing process comprising:
- 10 positioning a linking area in accordance with the values of the interrupted sector, the interrupted data frame, and the interrupted bit count;
- enabling the start writing signal; and
- activating the laser power;
- wherein the linking area is linked to the interrupted position accurately and the length of the data frame is kept constant without causing errors on data
- 15 reading.
2. The link writing method according to claim 1, wherein the step of positioning the linking area comprises the steps of:
- reading the values of the interrupted sector, the interrupted data frame, and the interrupted bit count of the interrupted position;
- 20 setting the linking position, including starting sector, starting frame and starting bit count;
- searching the interrupted sector area by counting the sector's SYNC signal to the starting sector;
- searching the interrupted data frame area by counting the EMF's SYNC signal to
- 25 the starting frame; and
- searching the interrupted bit area by counting the EFMCLK's pulse signal to the starting bit count.
3. The link writing method according to claim 2, wherein the starting sector is set as

the interrupted sector, the starting data frame is set as the interrupted data frame, and the starting bit count is set as the interrupted bit count.

4. The link writing method according to claim 3, wherein the corresponding area length of laser power settling time is subtracted from both the interrupted position and the linking position.

5. The link writing method according to claim 1, wherein the step of positioning the linking area comprises the steps of:

reading the values of the interrupted sector, the interrupted data frame, and the interrupted bit count of the interrupted position;

setting the linking position, including starting sector and starting bit count;

searching the interrupted sector area by comparing the ATIP time code with the starting sector; and

searching the interrupted bit area by counting the EFMCLK's pulse signal to the starting bit count.

6. The link writing method according to claim 5, wherein the value of the starting bit count is the written bit count of the interrupted sector.

7. A link writing method for a recordable compact disk (CD-R) comprising the steps of:

recording a interrupted position by storing values of an interrupted sector, an interrupted data frame, and an interrupted bit count when data under-run or other causes occur in the driver ; and

enabling a succeeding writing process and setting the judged maximum run-length value when the causes causing the writing interruption is eliminated, the succeeding writing process comprising:

searching the linking area by comparing the data width with maximum run-length; enabling the start writing signal; and

activating the laser power;

wherein the linking area is linked to the interrupted position accurately and the length of the data frame is kept constant without causing errors on data

reading.

8. The link writing method according to claim 7, wherein the step of searching the linking area comprises the steps of:

reading the values of the interrupted block, the interrupted data frame, and the interrupted bit of the interrupted area;

setting the values of a starting block, a starting data frame, a starting bit count of the writing starting area, and the judged maximum run-length value;

detecting the area where the data length is greater than the maximum run-length in order to be used as the linking area.

9. The link writing method according to claim 8, wherein the writing starting area is the interrupted area plus the maximum run-length so as to maintain the data frame with the same length.

10. The link writing method according to claim 8, further comprising a step of writing a section of low reflective pattern data following the interrupted area when the recordable compact disk is a Re-writable compact disk, wherein the length of the low reflective pattern data is greater than the maximum run-length value of the Re-writable compact disk.

11. The link writing method according to claim 8, further comprising a step of writing a section of high reflective pattern data following the interrupted area when the recordable compact disk is a Re-writable compact disk, wherein the length of the high reflective pattern data is greater than the maximum run-length value of the Re-writable compact disk.

12. A recordable compact disk driver having the function of link writing, comprising:
a sub-code decoder for providing block SYNC signal and reproduced time code information while reading the data of the disk;
a SYNC pattern decoder for providing EFM SYNC signal while reading the data of the disk;
an encoding link controller for positioning a link area and starting a succeeding writing signal; and

a micro controller for receiving the succeeding writing signal of the encoding link controller and starting a succeeding writing process.

13. The recordable compact disk driver according to claim 12, wherein the link area is positioned by the encoding link controller according to the block SYNC signal, the EFM SYNC pattern signal, and a EFMCLK pulse signal.

14. The recordable compact disk driver according to claim 12, wherein the encoding link controller is to detect the area where the data length is greater than the maximum run-length of the disk in order to be used as the linking area.

15. A recordable compact disk driver having the function of link writing, comprising:
an ATIP decoder for providing ATIP time code while reading the data of the disk;
an encoding link controller for positioning the link area of succeeding writing and starting a succeeding writing signal; and
a micro controller for receiving the succeeding writing signal of the encoding link controller and starting a writing process.

16. The recordable compact disk driver according to claim 15, wherein the link area is positioned by the encoding link controller according to the ATIP time code and the EFMCLK pulse signal.

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